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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,379	03/12/2004	Carsten Mitter	10191/3562	7288
26646	7590	02/24/2006	EXAMINER	
KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004			STIGLIC, RYAN M	
			ART UNIT	PAPER NUMBER
			2112	

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/799,379	Applicant(s) MITTER, CARSTEN	
	Examiner Ryan M. Stiglic	Art Unit 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. Claims 1-10 are pending and have been examined.
2. Claims 1-10 are rejected.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(o) because they lack descriptive legends the Examiner feels are necessary for better understanding of the drawings. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-3 and 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Drummond et al. (US006291905B1) in view of Gruenewald et al. (US 20030100980A1).

For claim 1:

Drummond teaches a communication device (Fig. 3, 40; col. 3, ll. 18-23) operating according to an asynchronous data transmission via a symmetrical serial interface, comprising:

- a microcontroller including a CAN controller and an asynchronous serial interface unit for receiving, processing, and outputting data (Fig. 3, 22; col. 3, ll. 18-23; col. 4, line 64 – col. 5, line 2);
- an asynchronous serial interface receiving line (see figure 3; col. 4, line 64 – col. 5, line 2);
- an asynchronous serial interface transmitting line (see figure 3; col. 4, line 64 – col. 5, line 2);
- an external asynchronous serial interface port (see figure 3, “LSB” on connector CN0; col. 4, line 64 – col. 5, line 2);
- an asynchronous serial interface driver device (Fig. 3, 25; col. 4, line 64 – col. 5, line 2) for providing an asymmetrical data exchange with the microcontroller via the asynchronous serial interface unit, the asynchronous serial interface receiving line, the asynchronous serial interface transmitting line, and the external asynchronous serial interface port;
- a CAN receiving line (see figure 3; col. 3, ll. 18-30);
- a CAN transmitting line (see figure 3; col. 3, ll. 18-30);

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- a plurality of external CAN ports (see figure 3; col. 3, ll. 18-30);
- a CAN driver device (Fig. 3, 23) for providing a symmetrical data exchange with the microcontroller via the CAN controller, the CAN receiving line, the CAN transmitting line, and the plurality of external CAN ports (col. 3, ll. 18-30); and

While Drummond teaches a CAN node (Fig. 3, 40) comprising both CAN and asynchronous serial communication links, they fail to teach a way of increasing the slow speed of an asynchronous serial communication link.

Gruenewald teaches a CAN node (Fig. 1, 100) that drastically increases the speed of asynchronous serial communication by connecting the transmission and receiving lines of a serial/programming interface with the transmission and receiving lines of a higher speed CAN controller. Gruenewald furthermore teaches a communication device operating according to an asynchronous data transmission via a symmetrical serial interface, comprising:

- a microcontroller (Fig. 1, 103) including a CAN controller (Fig. 1, 107) and an asynchronous serial interface unit (Fig. 1, 108) for receiving, processing, and outputting data [0024];
- an asynchronous serial interface receiving line (Fig. 1, RX0);
- an asynchronous serial interface transmitting line (Fig. 1, TX0);
- an asynchronous serial interface driver device for providing an asymmetrical data exchange with the microcontroller via the asynchronous serial interface unit, the

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asynchronous serial interface receiving line, the asynchronous serial interface transmitting line, and the external asynchronous serial interface port [0026];

- a CAN receiving line (Fig. 1, RX1);
- a CAN transmitting line (Fig. 1, TX1);
- a plurality of external CAN ports (Fig. 1, 110, 104a);
- a CAN driver device for providing a symmetrical data exchange with the microcontroller via the CAN controller, the CAN receiving line, the CAN transmitting line, and the plurality of external CAN ports (Fig. 1, 102; [0026-0027]); and
- a connecting device arranged between the CAN receiving line and the asynchronous serial interface receiving line, and arranged between the CAN transmitting line and the asynchronous serial interface transmitting line for providing a symmetrical data exchange with the microcontroller via the asynchronous serial interface unit, the CAN driver device, and the plurality of external CAN ports (Fig. 1, 105; [0025-0028]).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to implement the connecting device (Fig. 1, 105) of Gruenewald into the CAN node (Fig. 3, 40) of Drummond such that data rates many times higher than those of conventional serial interface drivers is achieved.

For claim 2 Drummond in view of Gruenewald teach:

The communication device as recited in claim 1, further comprising: a control device including an external pin, wherein: the connecting device includes a switching device that is selectively

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controllable via one of the external pin and an internal port of the microcontroller, depending on a program control (Gruenewald; [0021-0022]).

For claim 3 Drummond in view of Gruenewald teach:

The communication device as recited in claim 2, wherein: the program control is configured such that data may be one of received and transmitted only through one of the external asynchronous serial interface port and the plurality of external CAN ports at a time (Gruenewald; [0014, 0025]).

For claim 5 Drummond in view of Gruenewald teach:

The communication device as recited in claim 1, wherein: a data exchange between an external device and the control device is one of task-controlled and interrupt-controlled (Drummond; col. 7, line 65 – col. 8, line 3; Gruenewald; [0023]).

For claim 6 Drummond in view of Gruenewald teach:

The communication device as recited in claim 1, wherein: the connecting device is arranged within the microcontroller (Gruenewald; [0016]).

For claim 7 Drummond in view of Gruenewald teach:

The communication device as recited in claim 1, wherein: the microcontroller includes a pin each for the asynchronous serial interface transmitting line, the asynchronous serial interface receiving line, the CAN transmitting line, and the CAN receiving line (Drummond; shown as the

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various RX and TX lines; Gruenewald; shown as TX0, RX0, TX1 and RX1), and the connecting device in each case connects the asynchronous serial interface transmitting line, the CAN transmitting line, the asynchronous serial interface receiving line, and the CAN receiving line within the microcontroller (Gruenewald; shown in Fig. 1; [0025-0026]).

For claim 8 Drummond in view of Gruenewald teach:

The communication device as recited in claim 1, wherein: the microcontroller includes a first common pin for the CAN receiving line and the asynchronous serial interface receiving line (Gruenewald; Fig. 1, TX), the microcontroller includes a second a common pin for the CAN transmitting line (Gruenewald; Fig. 1, RX) and the asynchronous serial interface transmitting line, and a selection of a desired interface being implementable via a register setting (Gruenewald; [0015]).

For claim 9 Drummond in view of Gruenewald teach:

The communication device as recited in claim 1, wherein: the external asynchronous serial interface port includes a K line ISO9141 interface (Drummond; col. 4, line 64 – col. 5, line 2).

For claim 10 Drummond in view of Gruenewald teach:

The communication device as recited in claim 1, wherein: the communication device is made up of a vehicle control unit (Drummond; col. 2, ll. 27-31; Gruenewald; [0017]).

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6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Drummond in view of Gruenewald as applied to claim 1 above, and further in view of what was commonly known in the art at the time of applicant's invention as evidenced by Harper et al. (US006659512B1).

Drummond in view of Gruenewald teach a CAN communication device including both a CAN and asynchronous serial interface. They further teach a connecting device disposed between the receiving and transmission lines of the CAN bus and asynchronous serial communication line. The connecting device is used to connect the asynchronous serial communication lines (both transmission and reception) to the CAN transmission and receiving lines in order to achieve transmission rates that are much higher than those of standard serial communications (Gruenewald; [0030]). While Drummond in view of Gruenewald show the microcontroller coupled to the connecting device they fail to teach exactly how the devices are connected.

Official Notice is taken that using bond wires to interconnect semiconductor devices was well known in the art at the time of applicant's invention. "Wire bonding is the most common technique for electrically connecting an IC chip to a substrate. This is due to that (the) fact that this technique provides the maximum number of chip connections with the lowest cost per connection (Harper; col. 1, ll. 34-38)."

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Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Casey and Linn teach apparatuses and methods similar to Gruenewald where slower communication links may use a faster CAN bus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan M. Stiglic whose telephone number is 571.272.3641. The examiner can normally be reached on Monday - Friday (6:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on 571.272.3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RMS



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PRIMARY EXAMINER